

**ABSTRACT OF THE DISCLOSURE****METHOD AND APPARATUS FOR GENERATING INTERRUPTS BASED ON  
ARITHMETIC COMBINATIONS OF PERFORMANCE COUNTER VALUES**

A method, apparatus, and computer instructions in a data processing system for processing instructions are provided. Instructions are received at a processor in the data processing system. If a selected indicator is associated with the instruction, counting of each event associated with the execution of the instruction is enabled. In some embodiments of the present invention, arithmetic combinations of counter values generated based on the encountering of performance indicators may be generated and compared to threshold values to determine whether to generate interrupts to the monitoring application. In such embodiments, the microcode of the processor is programmed to check the counter values of counters specified by the monitoring application, combine the counter values in a manner specified by the monitoring application, and then compare the combined value to a threshold value supplied by the performance monitoring application. In this way, more complex conditioning of interrupts may be provided within the hardware of the processor.